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THE DESIRABILITY OF A COLLEGE EDUCATION FOR RAILROAD WORK

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Modern railroading is indeed a profession, and the science of transportation is one recognized as an essential factor in the progress of this country, and therefore I need make no apology in considering whether a college education is necessary and advantageous to the young man who proposes to engage in railroad work.

The steam railroads of the United States, in providing transportation facilities for eighty millions of people, operate 214,000 miles of railroad, capitalized at over \$13,000,000,000 in bonds and stocks; they carry in a year over 715,000,000 passengers, and over 1,300,000,000 tons of freight, and their gross earnings approximate \$2,000,000,000.

These lines afford employment for about 1,300,000 persons, to whom \$850,000,000 are annually paid in salaries and wages. Of this large working body 5,165 are considered as the higher or general officers, and 5,500 as a second grade of officers. The average annual compensation for the first grade ranges from \$4,500 upwards, and for the second grade from about \$2,000 to \$4,000. I will consider only the officers, because I feel sure that the only object a university man can have in entering the railroad service is to reach an official position.

In the race for official positions there are two classes of candidates; first, those who have had a public school education and who have entered the railroad service at an early age without attending college or a university, and second, those who have had the benefit of a college or university training.

There is no doubt that a college graduate has a distinct advantage in that part of the railroad service where purely professional attainments are required, namely, in the civil and mechanical engi-

neering branches, and to-day railroad men desire men who have had a training in the theory of engineering, rather than those who are without it. They recognize that the man who has a good ground work in theory, and some little practical training, received during his college or university course, possesses about the best possible foundation. There is, therefore, no question that in the civil and mechanical engineering branches the college man has a most decided advantage in these days, and this advantage is constantly increasing.

We may admit that the field of civil engineering is now limited to the college trained man, and the field of mechanical engineering is largely becoming so, because modern educational requirements in both branches are increasing. From these two branches most of our railroad officers are taken; for, they have charge of the running of the operating machinery, namely, the transportation or operating department. The general thought is that the men who have been responsible for, and thoroughly acquainted with, the roadbed, yards and facilities, and the men who make, repair and inspect the traffic moving machinery, have the basis from actual knowledge and experience to make capable officers. My belief is that, for young men who do not receive a professional but rather a general college education on broad business lines, good openings to which they may aspire, and which ultimately lead to official positions, are to be found in the Freight and Passenger Traffic Departments, and the Secretary's, Treasury, Accounting, Purchasing and Real Estate Departments of the railroad service. We can even enlarge this field, for often we find that many of the officers connected with the actual movement of the traffic in the Transportation Department may also be embraced in this class.

As an estimate, I would say that at least 50 per cent. of the officers in the railroads would come under the designation of men who may be taken from those trained in the college department or schools of finance and commerce of a university.

College men will not, however, be spoiled with large salaries, or promises of official positions at the start; they must make an inconspicuous beginning, and grow up with the company. The situation in regard to the employment of college men in these large branches of the service is that many railroad men prefer to take in boys who have only a public school education, but who are willing to do any

work, and allow them to develop by practical experience, learn all the details, and by actual workings of the several departments expand their minds. They will frankly say, we do not want a college, or a university man, because he is generally 21 to 24 years of age, has ideas of his own, and very often is entirely inexperienced in the transaction of business matters compared with the young man who has come from a public school and grown up in the service.

On the other hand, college men start with high ideals and ideas, and it is fortunate that they do, but at their age they expect much higher salaries than the other class of men, they do not desire to perform what they may term menial or under-dog work (of which there is a large part at the beginning of every railroad career), and they have other motives which do not always commend them to a man struggling with a busy office. The principal objection to a college man is that he does not know the organization, or the officers, and he has no means of quickly but definitely obtaining and communicating the ideas of the head of the department. In other words, he is not possessed of those faculties which, from the beginning of his connection, relieve the head of the department of details; but, on the contrary, is rather a hindrance to him, while the boy from the public school has served his apprenticeship by first taking instructions from other clerks or a chief clerk, has a general knowledge of the organization, knows all of the minor details, and is prepared to consider a higher class of work.

College men are, therefore, taken with a grain of salt, not because they are inferior, for, on the contrary, they may be good men of sound minds, but they are pretty much like that useful article known as a frying pan without a handle, wherein it is possible to melt good fat and prepare a solid meal, but without the handle it is difficult to make prompt and practical use of it, and burnt fingers are the result.

I believe that the average college man will not at first find the railroad service a very attractive field, nor will the railroad official consider him a very attractive "find," until both understand each other better. The railroad man should realize that the college man has, or ought to have, a better developed mind and body and be trained to co-operate with others in obtaining results, and secondly, the college man must appreciate the necessity of getting down to business. Furthermore, the college man should know that as a

means of bringing himself into closer relations with the head of the department a knowledge of stenography, and indeed of typewriting, is absolutely indispensable, and to this we should add the comprehension of a good system for filing and handling correspondence. The college man, if he would become a general railroad man, not only requires a good general education, a strong body and a healthy mind, but he should in addition have a practical knowledge of stenography, which is a very important adjunct to either a student, or a worker, immediately placing him in touch with the head of his department giving him an opportunity of ascertaining the latter's ideas, and in a short time a comprehensive knowledge of the business.

University educators will at once object to the inclusion in a classical curriculum of such an indispensable study as shorthand, because they may rightly claim that this is a knowledge which can be imparted in any business college; but the advantage of the study to students even in their university work and its great influence in advancing the education of young men is one that must not be overlooked, especially in these days when so many men attending a university are not there solely for a classical education but rather to be fitted to earn a livelihood. To this it would be essential to add studies in transportation, commerce, rates and traffic, corporation, finance, economics, real estate, money and credit, accounting, physical and commercial geography, business law, banking, industrial management, the marketing of products and, of course, these studies should be based upon a good knowledge of English. To them should be added a general understanding of the history, the laws and government of the country and of the State in which they seek employment.

I do not believe that a man should acquire, or could in this way acquire, such a knowledge of banking as will enable him to become the President, or even the Cashier, of an institution, or enough of rates and traffic to become a Traffic Manager, but these subjects will broaden his mind, and make him so receptive of ideas as to fit him in time to render most valuable assistance to a responsible official in carrying on the serious business of railroad work. Such a wide field is indispensable, in my judgment, to a successful railroad career. Upon this foundation it will be his every day work to build a superstructure of practical knowledge. Such a young man in time should

be considered in a class far beyond the boy who has received only an ordinary school education, and who having necessarily been restricted to a single line of work in a special office, knows no other. This latter might have been a virtue in the infancy of railroads, but nowadays an all-around knowledge of railroad problems is essential. It is not possible to make a good railroad Purchasing Agent without some idea of market conditions and the marketing of products, nor is it possible to make a good railroad officer out of a man who takes no thought of transportation and traffic problems in their relation to the public as well as to his own company, nor is it possible to make a successful General Manager without the amount of broad training as a ground work which his title indicates.

These men are loaded with heavy responsibilities, for it must be remembered that they have a duty to perform to the National and State governments, to their own stockholders, to the public and to the employees, so that these broad lines place railroading beyond the category of a mere occupation, and it must be truthfully termed a profession.

It has not produced many millionaires, but it offers steady employment at reasonable rates of remuneration, and there comes after years of hard work to the intelligent, earnest and capable man the hope that he will reach a position of responsibility, and of corresponding remuneration, to reward him for his struggle.

Railroad men have many opportunities of seeing a larger share of life than men in many other professions, and as a rule their associations are most pleasant and beneficial. The standard of ability in railroading is steadily rising, and a young man who enters the profession must be genuine gold to stand the trial and finally succeed.

I hope that the day is close at hand when young men, who have received training in the subjects I have just mentioned, will receive greater recognition from railroad employing officers, so that at least a larger percentage of them will, after leaving the colleges and universities, find their way into the railway service, and after practical experience will add to the number of progressive men in charge of those railroad departments in which a technical knowledge of the working machinery is not so essential as in the engineering branches.

I have such a high regard for the progress of American Railways that, when the colleges and universities have done their part in training men in commerce, finance and accounting schools, I feel

assured they will open the path to utilize such graduates. I also think that it would be a distinct advantage to every railway service if its present officers could add to their practical experience the essence of the courses I have named, placed in such shape that they could obtain the benefits therefrom. At present this is an exceedingly difficult matter with men who have their every moment filled with the realities of every day work and responsibility.

I do not in any way desire to reflect upon the capabilities of the young men who have not received the advantage of a college education, because under our present social organization it is a necessity, and in many cases a virtue, that at least 80 per cent. of the total number of young men must forego this advantage and work for a livelihood, acquiring knowledge in the daily discharge of their duties and when the day's work is at an end. My intention throughout has been to urge the universities and colleges to train men for railroad careers and to encourage young men to undertake studies as will equip them to be useful from the first day of their contract with any business.

The larger part of the progress made by American Railways to this date has been accomplished by men, who have started at a very early age in the railway service without any technical or professional knowledge of transportation, traffic, financial or accounting requirements, and who have, by handling the details and shouldering the responsibilities, built up the greatest transportation systems of the world. If these men had had the present day educational advantages it is hard to estimate how much greater would have been the corresponding advancement in this notable American profession.